



An ISO 9001:2008 Registered Company

## Guardian GRD501-AR Adapter Matrix

**Note:** Based on vehicle age and transmission code, it may be necessary to use one of the adapters listed below along with the GRD501 or GRD502 part number.

Adapter	Application
<b>GRDP1</b>	Ford Econoline – 2005-2006 Transmission Code A, F, or Q
	Ford Econoline – 2004 w/Gasoline or CNG Engines Only
<b>GRDP2</b>	Ford Econoline – 2003 Gas Engine with Transmission Code E or 9 only
<b>GRDP3</b>	Ford Econoline – 2003 Gas Engine with Transmission Code U only
<b>GRDP4</b>	Ford Econoline – 2003 Diesel Engine All Transmission Codes
<b>GRDP5</b>	Ford Econoline – 2003 Ford 5.4L CNG Engine All Transmission Codes
<b>GRDP6</b>	Ford Econoline – 1997-2002 Gas Engine with Transmission Code E or 9 only
<b>GRDP7</b>	Ford Econoline – 1997-2002 Gas Engine with Transmission Code U only
<b>GRDP8</b>	Ford Econoline – 1997-2002 Diesel Engine All Transmission Codes
<b>GRDP9</b>	Ford Econoline – 1997-2002 Ford 5.4L CNG Engine All Transmission Codes
<b>GRDP10</b>	Ford Econoline – 2007-2008 Gas Engine with Transmission Code Q only



An ISO 9001:2008 Registered Company

## Guardian Personal Mobility Lift Interlock GRD501-AR 1997-2008 Select Ford E-Series Installation Instructions

**GUARDIAN MODULE** - Remove the lower dash panel below the steering column. The Guardian Module should be positioned behind the metal knee bolster bracket below the steering column. It can be secured using self tapping screws, adhesive foam tape, or wire ties. Do not secure the module until all harnesses are installed and proper lift operation has been verified.

**LED DISPLAY PANEL** – This harness can be identified by the blue tape near the 6-pin connector. Locate a suitable position on the dashboard, within view of the driver for the mounting of the LED Display Panel. The length of the display harness is 40". This is the maximum distance the display can be from the Guardian module. Drill a 3/4" hole in the dashboard where you wish the center of the display to be. Snap the blue taped end of the LED display harness into the Guardian Module in the connector labeled in blue "Display". Run the other end of the harness under the dash and out through the 3/4" hole. Snap the end of the display harness into the LED Display Panel. Ensure panel is level, and secure using the supplied screws.



**LIFT HARNESS** – This harness can be identified by the green tape near the 6-pin connector. Attach the appropriate wheelchair lift adapter to the lift harness, then attach adapter to the wheelchair lift. Run the lift harness from the wheelchair lift to the Guardian Module. Finally, snap the green taped end of the Lift Harness into the Guardian connector labeled in green "Lift".



**Before continuing installation, the following check must be performed:**

*Intermotive Inc.  
13395 New Airport Rd. Ste A  
Auburn, CA 95602*

*Phone: (530) 823-1048  
Fax: (530) 823-1516*

*www.  
product  
Gua*



Verify that the vehicle ignition is off and the lift is fully stowed for at least 5 minutes. This will ensure the Guardian module is in sleep mode. Attempt to deploy the wheelchair lift. Both the red and green indicators on the LED Display Panel should briefly illuminate as a prove-out after the module wakes up. If they do not, check to make sure each harness is connected to the proper Guardian Module connector as outlined in the above steps. Only proceed to the next step if the indicators illuminate. Otherwise, damage can occur to the module.

### **VEHICLE 1 HARNESS**

This harness can be identified by the orange tape near the 6-pin connector. Disconnect the black Ford connector from the Parking Brake. Plug the female side of the connector from the Brown wire on the Vehicle 1 harness to the parking brake. Install the male side of the connector to the female connector in the Ford harness.

#### **2005-2008 Econoline with B or T Transmission Code only**

Locate the Ford OEM Blunt cut wire for “Park”. This wire is located under the hood in the cowl area. On gas engines, it is a White/Orange wire labeled “Park Out”. On diesel engines, it is a Yellow/White wire labeled “TRO\_P”. Verify that this wire provides ground in Park only. The orange wire from the Vehicle 1 harness will be run through the vehicle bulkhead. Drill a 5/8” hole in the bulkhead. Feed the orange wire into the engine compartment. Secure the grommet on this wire in the drilled hole. The grommet can be moved along the harness for a custom fit. Trim wire to proper length and connect to the Ford OEM Blunt cut wire for “Park” by soldering the wires and sealing the connection with heat shrink tubing. Secure the harness with wire ties.

#### **2005-2008 Econoline with A, F, or Q Transmission Code or 2004 Econoline with Gasoline or CNG Engine only**

These applications will not have a Ford OEM Blunt cut wire for “Park”. An auxiliary Park Harness (Part # GRDP1 for 2004-2006) or (Part # GRDP10 for 2007-2008) will be needed and the Vehicle 1 Harness will need to be modified. Cut the Orange wire near the connector. Save the grommet, and discard the Orange wire. Locate the Ford black 16-pin (2004-2006) or black 10-pin (2007-2008) connector located above the transmission bell housing. Separate the connector halves and connect the black “T” harness connectors from the optional Park Harness between them. Drill a 5/8” hole in the bulkhead flange for the engine cover (see picture).



Feed the two green wires through the hole from the engine compartment. Slide the saved grommet onto the harness and secure in the hole. The grommet can be moved along the harness for a custom fit. Install the two Green wire terminals into the Vehicle 1 Harness connector in the two empty slots next to where the orange wire was. Either Green wire can be installed in either slot. Ensure that the metal pins securely lock into the 6-pin connector. Secure the harness with wire ties



Snap the Vehicle 1 Harness into the Guardian Module connector labeled in orange “Vehicle 1”.

**VEHICLE 2 HARNESS** - Locate the Ford shift lock solenoid on the steering column and disconnect the black 3-pin connector. Be careful not to break the plastic tab on the connector. Insert the black female 3-pin connector from the Vehicle 2 harness into the shift lock solenoid. Ensure that it is fully seated into the solenoid. Insert the black male 3-pin connector from the Vehicle 2 harness into the connector that was originally installed in the shift lock solenoid. **It is imperative that these connectors mate with the tabs on the same side. Use the supplied small wire tie to secure the two tabs together. These connectors must not be allowed to separate!**

Snap the Vehicle 2 Harness into the Guardian Module connector labeled in white "Vehicle 2"



**Secure the Guardian Module in its final location and test for proper operation. (See Post Installation Check List).**



---

An ISO 9001:2008 Registered Company

---

## **Guardian Personal Mobility Lift Interlock GRD501-AR/601-AR Post Installation Check List**

**The following checks must be made after installation of the InterMotive Guardian GRD501 or GRD601 to ensure correct and safe operation of the lift. If any of the checks do not pass, do not deliver the vehicle. Recheck all connections as per the installation instructions.**

Begin the checklist with the vehicle in the following state:

- Lift stowed
  - Park brake set
  - Transmission in park
  - Ignition off
  - All Guardian LED's not illuminated (sleep mode)
  - Lift access door open
1. Turn on the ignition. Verify that all LED's prove out and green lift power LED remains illuminated.
  2. Release the park brake. The green LED for lift power should now be off. Attempt to deploy the lift. The lift must not deploy.
  3. Set the park brake and shift the transmission out of park. The green LED for lift power should now be off. Attempt to deploy the lift. The lift must not deploy.
  4. Place the transmission in park. The green LED for lift power should now be illuminated.
  5. Attempt to deploy the lift. The lift should deploy and the red LED for lift-not-stowed should illuminate.
  6. With the lift deployed, attempt to shift the transmission out of park. The transmission shift lever must not be able to shift.
  7. Stow the lift. The red LED for lift-not-stowed should now be off.
  8. Turn off ignition.
  9. Wait approximately 5 minutes for the module to enter "sleep mode." This is verified when all LED's (including backlit icons) turn off.
  10. Attempt to deploy the lift. The module should prove-out all LED's and the lift should deploy.
  11. Stow the lift. Installation is complete.



---

An ISO 9001:2008 Registered Company

---

## **Guardian Personal Mobility Lift Interlock GRD501-AR/601-AR**

### **Operating Instructions**

The Guardian is a microprocessor driven system for controlling wheelchair lift operation. Lift operation will only be allowed when all of the following conditions are met:

1. The vehicle is in "Park"
2. The parking brake is applied.
3. The lift deploy switch is activated

The Guardian also will not allow the vehicle to be shifted out of park if the lift is not stowed.

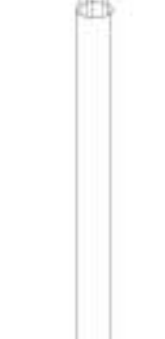
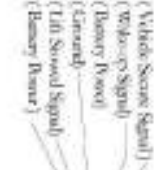
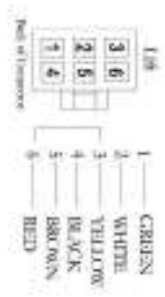
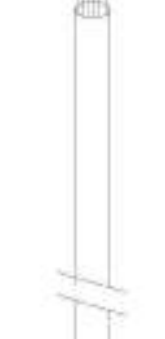
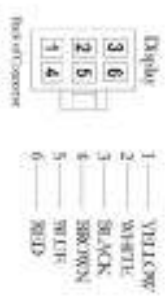
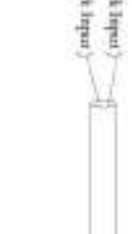
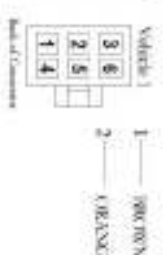
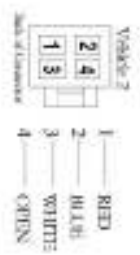
The Guardian will operate with the vehicle ignition on or off. When the ignition is turned on or the lift deploy switch is activated, the LED panel will prove out by illuminating the red and green indicators briefly. When the wheelchair lift is stowed and ignition power is not present for 5 minutes, the Guardian will enter a low current "sleep" mode of operation. To wake up from "sleep" mode, the ignition must be turned on or the lift deploy switch must be activated. After prove out, the operation of the indicators is as follows:

- Lift Power – Illuminates in green if power is available to the lift. This means that all conditions for lift operation have been met.
- Lift Not Stowed – Illuminates in red when the wheelchair lift is not stowed. If illuminated, the driver will not be allowed to shift out of park.

The indicators can also be used for diagnostic purposes. For example, if the Lift Not Stowed icon is illuminated when the lift is stowed, the driver will not be able to shift out of park. This means that the Guardian detects that the lift is not stowed. Thus, a technician should inspect the lift stowed switch and its circuit for proper operation.

**REVISIONS**

DATE: \_\_\_\_\_  
DRAWN: \_\_\_\_\_



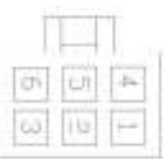
**Ford Guardian**

PRODUCT: \_\_\_\_\_  
DRAWN BY: SHAWN CONKLIN  
DATE DRAWN: 3/18/05  
CHECK BY: Ed Protopik  
PART NO: GRS001-AB, AG, AR  
DATE CHECKED: 3/18/05

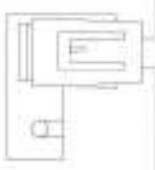
A B C D E F G H I J K L M N O P Q R S T U

**REVISIONS**

DATE CHANGE:



- 1 GREEN - Vehicle sensor signal to Ricon pin # 2
- 2 WHITE - Wake up signal to Ricon pin # 2
- 3 OPEN - Not used
- 4 BLK - Ground to Ricon pin # 3
- 5 BRN - Lift sensor signal to Ricon pin # 4
- 6 RED - Battery voltage to Ricon # 1



7.5 AMP FUSE



1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15



**Ricon Personal Lift Adapter**

DRAWN BY:	Bruce Hodges	PART NO:	GR01-AR
DATE DRAWN:	1/22/05	CHECK BY:	Ed Prokopik
		DATE ORDERED:	